

**Title:** The Development of Hardware for Optical Tomography System

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**Abstract:** This paper focuses on development of hardware for optical tomography system. Optical tomography system detects the objects that are present in the pipeline without have to invade the material inside. This system is very useful for monitoring purpose in industrial pipeline. Therefore, in order to develop this system, hardware part plays an important rille. Sensor selection must be done with caution because most of the problems occur in making the circuit is an inconsistency between the sender and the receiver. The problem that often occurs is the receiver pair will receive the wrong signal from the transmitter. To solve this problem sensor jig with collimator will be developed. In hardware development, LM324, PIC18F4550 and PIC18F4520 are used as a major component. This system is capable of transmitting data from the sensors part to the computer using RS232 cable. This project is very useful to facilitate the maintenance and monitoring as well as to reduce maintenance costs. Study to use a larger pipe can be done in the future for indllstrial needs.